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Quatre groupes du niveau de la maternelle (96 élèves de la région montréalaise) ont été inc'us dans cette évaluation: un groupe en classe d'immersion (16), un groupe en classe d'accueil située dans un milieu anglais (54), un autre en classe d'accueil dans un milieu français (16), enfin un groupe d'élèves francophones (10). L'habilété linguistique de la langue seconde a été évaluée en anglais et en français, celle de la langue maternelle en français, en anglais et en grec. Un test de compréhension auditive et un test de production orale libre ont été administrés dans chaque langue. De plus, un test de production oral dirigé a été administré en français et en anglais.

Les résultats des tests de français indiquent que: 1. Les groupes des classes d'accueil ont eu des résultats supérieurs à ceux du groupe d'immersion primaire; 2. Les deux groupes de classes d'accueil réussissent aussi bien que le groupe témoin français au test de compréhension mais non aux tests de production; 3. Il n'y a pas de différence significative entre les deux classes d'accueil; 4. Il n'y a pas de différence significative entre les élèves dont le français est la langue seconde et ceux dont il est la troisième langue.

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STARTING FRENCH IN KINDERGARTEN: THE EFFECTS OF PROGRAM, MOTHER TONGUE AND OTHER LINGUISTIC EXPERIENCE ON SECOND LANGUAGE DEVELOPMENT

ELLEN ADIV

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STARTING FRENCH IN KINDERGARTEN: THE EFFECTS OF PROGRAM, MOTHER TONGUE AND OTHER LINGUISTIC EXPERIENCE ON SECOND LANGUAGE DEVELOPMENT

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Résumé

Le but de ces travaux de recherche a été: (1) d'évaluer l'habileté linguistique en Français des élèves participant à deux programmes différents au niveau de la maternelle: un programme d'immersion primaire et un programme de classes d'accueil; (2) d'examiner si le niveau de compétence en français est influencé par (a) la structure de la langue maternelle et (b) la connaissance de l'élève d'une troisième langue; (3) d'examiner la compétence des élèves dans leur langue maternelle et, selon le cas, leur compétence dans une troisième langue.

Trois groupes différents d'élèves ont été inclus dans cette évaluation: (1) un groupe d'immersion primaire, (2) un groupe d'élèves provenant de classes d'accueil situées dans un milieu anglais (Accueil I) et (3) un groupe d'élèves provenant de classes d'accueil situées dans un milieu français (Accueil II). Un groupe d'élèves francophones a été inclus dans l'évaluation pour fins de comparaison.

L'habileté linguistique de la langue seconde a été évaluée en anglais et en français. L'habileté linguistique de la langue maternelle a été évaluée en français, en anglais et en grec. Les tests suivants ont été administrés dans chaque langue: un test de compréhension auditive et un test de production orale "libre." De plus, un test de production orale "dirigé" à été administré en français et en anglais.

Les résultats des tests de français indiquent que: (1) Les deux groupes de classes d'accueil ont eu des résultats supérieurs au groupe d'immersion primaire dans la plupart des tests. (2) Au test de compréhension auditive il n'y avait pas de différence significative entre les deux groupes de classes d'accueil et le groupe témoin français. Cependant, les deux groupes de classes d'accueil ont obtenu des résultats inférieurs à ceux du groupe témoin français dans la plupart des mesures se rapportant aux tests de production. (3) Entre les deux groupes de classes d'accueil il n'y avait aucune différence significative. (4) Les élèves dont la langue maternelle est l'italien ont obtenu des résultats supérieurs à ceux des élèves dont la langue maternelle est le grec dans certains tests. Autrement il n'y avait pas de différences significatives entre les groupes d'élèves identifiés suivant leur langue maternelle. (5) Il n'y avait pas de différences significatives entre les étudiants dont le français était leur langue seconde et ceux dont le français était leur troisième langue.

Les résultats des tests d'anglais indiquent qu'il n'y avait pas de différences significatives au test de compréhension auditive entre les élèves anglophones et ceux dont l'anglais n'est pas leur langue maternelle. Cependant ces derniers ont obtenu des résultats inférieurs à ceux des élèves anglophones dans la plupart des mesures se rapportant aux tests de production orale. De plus, les élèves dont la langue maternelle est le grec ont obtenu, en général, de meilleurs résultats aux tests grecs qu'aux tests anglais.

Les résultats sont discutés en fonction de quatre facteurs qui

pourraient influencer la performance en langue seconde: (1) l'intensité du programme, (2) le contact avec des étudiants francophones, (3) la similarité entre la structure de la langue maternelle et celle de la langue seconde et (4) le niveau de compétence de la troisième langue de l'apprenant. Le rapport met aussi en évidence un développement similaire dans l'apprentissage de différentes langues secondes.

Summary

The purpose of the present study was threefold: (1) to assess the linguistic proficiency in French of kindergarten students in two different intensive French second language programs: an early immersion program and a classes d'accueil program; (2) to investigate whether the level of proficiency in French is influenced by (a) the structure of the mother tongue and (b) the learner's knowledge of a third language; (3) to examine the students' proficiency in their mother tongue and, wherever applicable, their proficiency in the third language.

Three different groups of students were tested: (1) an Early Immersion group, (2) a classes d'accueil group from an English milieu (Accueil I) and (3) a classes d'accueil group from a French milieu (Accueil II). A group of native French speakers was included for comparison purposes.

Second language skills were measured in French and English. Mother tongue skills were assessed in French, English and Greek. The following tests were administered in each language: a listening comprehension test and a free oral production test. In French and English a directed oral production test was administered in addition to the above tests.

The French test results indicate that: (1) the Early Immersion group scored significantly lower than the two Accueil groups on most measures of evaluation; (2) there was no significant difference between the two Accueil groups and the French control group on any measure of

the comprehension test, but the Accueil groups scored significantly lower than the French control group on most measures of the production tests; (3) there were no significant differences between the two Accueil groups on any of the tests; (4) the native Italian students scored significantly higher than the native Greek students on several measures of evaluation but there were no other significant differences among groups of students identified by their mother tongue; (5) there were no significant differences between the students for whom French was their second language and those for whom it was their third language.

The English test results indicate that there were no significant differences between the native and non-native English students on the comprehension test, but the latter scored significantly lower than the former on practically all measures of the production tests. Moreover, the native Greek students scored higher in Greek than in English on most of the tests.

The findings of this study are discussed in terms of four factors which could influence second language performance: (1) intensity of the program, (2) contact with francophone peers, (3) structural similarities between the mother tongue and the second language and (4) the level of proficiency of the learner's third language. Similar developments in the learning of different second languages are pointed out.

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There are currently two intensive French as a second language programs operated by The Protestant School Board of Greater Montreal (P.S.B.G.M.) at the kindergarten level. The first is an early immersion program and the other is a classes d'accueil program. A comparative study of these two programs was carried out towards the end of the 1978-1979 school year (Adiv, Note 1). Three groups of students participated in that study: (1) an early immersion group, (2) a classes d'accueil group located in an English milieu and (3) a classes d'accueil group located in a French milieu. A group of francophone students was included for comparison purposes. All the students were administered a battery of French language tests consisting of a listening comprehension test and several production tests. The results of the study showed that: (1) there were no significant differences between the early immersion group and the two classes d'accueil groups on the listening comprehension test. (2) Both classes d'accueil groups scored significantly higher than the early immersion group on practically all measures of oral production. (3) The classes d'accueil group located in the French milieu produced more French utterances than the classes d'accueil group in the English milieu. Otherwise, there were no significant differences between these two groups. (4) The comparison with the French control group showed that the early immersion students scored significantly lower than the francophone students on all the tests. The latter group also scored significantly higher than the two classes d'accueil groups on several measures of the production tests. However, there were no significant differences between the francophone students and the classes d'accueil students on the comprehension test.

The purpose of the present study is threefold: (1) to replicate last year's evaluation on a larger scale; (2) to investigate whether the level of proficiency in French is influenced by (a) the structure of the learner's mother tongue and (b) the learner's knowledge of a third language; (3) to examine the students' proficiency in their mother tongue and, wherever applicable, their proficiency in the third language.

The Programs

1) The Early Immersion Program

As in the regular kindergarten classes of the P.S.B.G.M., the children in the early immersion program attend classes for half a day. During that time, the teacher, a native or near native French speaker, addresses the children only in French and, although the children are encouraged to respond in French, they are not required to do so. The curriculum is a regular kindergarten curriculum, but in order to enable the children to function in the second language many of the activities are structured so as to maximize the development of linguistic skills in French. It should be noted that the early immersion classes are located within English-speaking elementary schools. Hence, outside the classroom the school environment is predominantly English.

2) The classes d'accueil

These classes were inaugurated at the P.S.B.G.M. in September 1976 and are designed for immigrant students and students who under Bill 101 must attend a regular French school. The purpose of the classes d'accueil

is to prepare the student to follow a regular French program at the grade level appropriate to his or her age. The classe d'accueil program is a full-day program except in cases where students had attended a full-day pre-kindergarten program previously. Consequently, most classes d'accueil students at the kindergarten level have 50% more classroom instruction in French than immersion students at the same grade level. The materials and methodology for teaching the second language are the same in the two programs at that grade level, but the additional class time in the classe d'accueil program allows for more exposure to and practice in the language. Moreover, both aspects of oral communication (comprehension and production) are stressed from the very early stages. Some classes d'accueil are situated in regular English schools. For students in these classes, there is little or no exposure to French outside the classroom, at least within the school milieu. This environment is similar to that encountered by immersion students. Other classes d'accueil are situated within French schools and, in some cases, they are partially integrated into the regular French program. The students in these classes benefit, therefore, from additional exposure to French as well as from contacts with native French-speaking peers.

Method

The Samples

Four groups of kindergarten students participated in this evaluation: (1) one group of students attended an immersion program (hereafter Early Immersion group). The students in this group came from two different kindergarten

classes located in the same school. All the students in the group were native English speakers. (2) One group of students attended accueil classes located in regular English schools (hereafter Accueil I group). The students in this group came from six different linguistic backgrounds. One third of the students were native English speakers, though 60% of the other students spoke English aside from their native tongue. (3) One group of students attended accueil classes located in regular French schools (hereafter Accueil II group). These students came from the same linguistic backgrounds as the Accueil I students. However, here there was just one native English speaker and only 22% of the other students spoke English. All the students in these two Accueil groups attended full-day kindergarten programs. (4) One group of native French speakers attended a kindergarten class in a regular French kindergarten (hereafter French control group). This class was located in the same school as one of the Accueil II classes. Almost none of the francophone students spoke any English. A summary of the exact sample sizes and distribution according to mother tongue is presented in Table 1. All the students were administered the Coloured Progressive Matrices test (revised order, Raven 1956) in order to obtain an index of mental ability for each student.

The Tests

Three batteries of tests were administered: (1) a battery of French tests, (2) a battery of English tests and (3) a battery of Greek tests. The French tests were administered to all the students. The English tests were administered to all native English speakers and to those students who spoke English as a second language. The Greek tests were administered to all native Greek speakers.

(1) The French Test Battery

The following French language tests were administered: (i) a listening comprehension test, (ii) a directed oral production test and (iii) a free oral production test.

(i) The Listening Comprehension Test

This test was adapted from the French comprehension test developed by the Ontario Institute for Studies in Education (Barik, 1977). The test consists of three parts. In part I, the students had to select the picture that corresponded to a word or sentence presented orally. In part 2, the students had to select the picture that answered a question presented orally. In part 3, short stories were read orally. Each story was followed by a number of questions also presented orally. For each question the student had to select the picture that represented the correct answer. In each case, the correct picture had to be chosen from four alternatives. In all, the test comprises 40 items. Each part was scored separately and the scores of the three parts were then added together for each student. Both the total scores and the scores of each subtest were considered in the analysis of the results.

(ii) The Directed Oral Production Test

This test is a French version of the Bilingual Syntax Measure (Burt, Dulay and Hernandez, 1974). The test is designed to measure oral proficiency and particularly structural proficiency in the second language. The French version is an experimental one and has been used by Beautier-Castaing (1976) to study the acquisition of French grammar by young children

of different linguistic backgrounds residing in France. The test consists of 34 grammatical structures which are elicited through short simple questions used in conjunction with four sets of cartoon-type pictures. In the present study the students' responses were scored as either correct or incorrect. Incorrect responses were classified as either (1) grammatically incorrect, (2) semantically incorrect or (3) no response. This last category included responses given in a language other than French.

(iii) The Free Oral Production Test

This test was developed by the research department of the P.S.B.G.M. It consists of three sets of pictures. The pictures were constructed so as to elicit syntactic units containing subject-verb and subject-verb-object relationships. Each set of pictures depicted a story (see appendix A). The students were asked to narrate what they saw in the pictures. In the case of the first set, the students were asked a question about each picture. The other two sets were introduced by starting the story and asking the students to continue. If a student did not complete the story he was urged on by questions such as "et qu'est-ce qui se passe ici?" (and what is happening here?).

To assess the students' proficiency in oral production three different measures of evaluation were used. First, each student's speech sample was evaluated by two raters, working independently, on four different dimensions: pronunciation, grammar, vocabulary and communication. The ratings ranged from a maximum of 5, indicating native-like skill, to a minimum of 1, indicating very poor skill. The evaluations of both raters were combined to form an average score for each dimension. Second, a more objective evaluation of the quantitative and qualitative performance of the students' speech samples was provided by counting the number of T-units and the percentage of correct T-units produced

by each student. A T-unit has been defined as "a main clause plus all subordinate clauses and non-clausal structures attached to or embedded in it" (Hunt, 1970:4). The T-unit has been suggested as a measure of second language development (Larsen-Freeman and Strom 1977) and has been used to assess oral and written speech samples of second language learners (Scott and Tucker 1974). Third, a subsample of the students' speech sample was analyzed linguistically according to four measures, adapted from Andreani et al. (Note 2): a) the number of syntactic units, b) the mean length of an utterance, c) the mean value of a syntactic unit and d) the average complexity of a syntactic unit.

a) The number of syntactic units referred to the number of utterances produced in French. An utterance was defined as a simple sentence. In case a sentence was grammatically incomplete but acceptable within the context, it was counted as a syntactic unit. For each student, the total number of syntactic units was counted. Utterances which were entirely in English were eliminated.

b) The mean length of a syntactic unit referred to the average number of words used per syntactic unit. The total number of words produced by each student was counted and divided by the number of syntactic units produced by that student.

c) The mean value of a syntactic unit. The purpose of this measure was to evaluate the children's ability to speak French beyond the minimal

responses elicited by the tester's questions. A score of (2) was given for a complete syntactic unit, i.e. if the syntactic unit was a complete simple sentence. A score of (1) was given if the syntactic unit was either semantically or syntactically incomplete even though it was contextually acceptable. A score of (0) was given when there was no response to the stimulus or when the entire utterance was given in English. Each student's total score was then divided by the number of syntactic units produced by that student.

d) The average complexity of a syntactic unit. The number of syntactic relations attached to the verb, such as subject-verb, object-verb, prepositional phrase, etc. was counted. The verb could be either present in the utterance or understood from the context. The total number of syntactic relations produced by a student was then divided by the total number of syntactic units produced by that student.

In addition to these measures, the number of subject pronouns used by each student in picture set I was recorded and categorized as either correct or incorrect. The students' production of pronouns was felt to be of special interest because previous studies (Adiv, Note 3, Note 4) had shown that students in immersion programs tend to avoid pronominalization.

(2) The English Language Test Battery

The following English language tests were administered: (i) a listening comprehension test, (ii) a directed oral production test and (iii) a free oral production test.

(i) The Listening Comprehension Test

This test was developed by the research department of the P.S.B.G.M. for the present study. It consists of three parts. In the first part the students had to select the picture that corresponds to certain spatial or quantitative concepts such as "in front of" or "most". In the second part the students had to show understanding of grammatical structures (e.g. present/past, singular/plural) by selecting the appropriate picture from among four alternatives. In the third part short stories were read orally. Each story was followed by a number of questions read orally. For each question the student had to select the picture that represented the correct answer. In all, the test comprised 40 items. Each part was scored separately and the scores of the three parts were then added together for each student. Both the total scores and the scores of each subtest were considered in the analysis of the results.

(ii) The Directed Oral Production Test

The purpose of this test was to assess the students' (native and non-native English speakers) proficiency with grammatical structures. The test used was Part II of the "Circus Say and Tell" test battery (set A). The test consists of 31 items. For each item the student was presented with two pictures and heard a sentence describing the first picture. The student then had to produce a statement in order to describe the second picture. The students' responses were scored either as correct or incorrect. Incorrect responses were classified as follows: (1) absence of correct grammatical form but indication of knowledge of the pertinent

concept; (2) absence of corresponding grammatical concept and (3) no response. The category "no response" included semantically unacceptable responses.

(iii) The Free Oral Production Test

The materials and testing technique used for this test were the same as those used for the free oral production test in French. However, in evaluating the students' speech samples only the following measures were used: (1) the four rating scales of the global evaluation (pronunciation, grammar, vocabulary and communication); (2) the number and percentage of correct T-units and (3) the number and percentage of correct pronouns produced in picture set I.

(3) The Greek Test Battery

The following Greek language tests were administered: (i) a listening comprehension test and (ii) a free oral production test.

(i) The Listening Comprehension Test

This test was developed by the research department of the P.S.B.G.M. in cooperation with Greek consultants. The test is similar to the English comprehension test and also consists of three parts: a part that tests knowledge of spatial and quantitative concepts, a part that tests knowledge of grammatical structure and a part that tests overall listening comprehension. In all, the test contains 40 items. The test was scored in the same way as the French and English listening comprehension tests.

(ii) The Free Oral Production Test

Here again, the materials and testing technique were the same as those used for the free oral production test in French and in English. Furthermore, the evaluative measures were the same as those used for the English production test. However, pronoun usage was not assessed because in Greek the subject pronouns which were elicited (he, she, they) are incorporated into the verbal suffix.

Procedure for Administering the Tests

All the tests were administered in May and June 1980. The Raven Matrices test was administered first. The Greek tests were administered next, followed by the English tests. The French tests were administered last so as to test as much as possible towards the end of the school year. When students were tested in more than one language, two weeks were allowed between testing sessions in the different languages. The listening comprehension tests were administered to groups of 16 students or less. Each group was tested in a separate classroom by a bilingual tester (French/English in the case of the French and English tests and English/Greek in the case of the Greek tests). Each testing session lasted 40 minutes. All test items and general instructions were given in the language that was being tested. However, the tester always made sure that all the students understood the instructions. The directed oral production test and the free oral production test were administered individually by the same tester and each session was tape recorded. The directed production test took approximately 15

minutes to administer and the free production test lasted approximately 8 minutes per student. The directed production test and the global ratings of the free production test were scored directly from the tapes. The free oral production tests were then transcribed for further analysis of the quantitative and qualitative performance of each student.

Results

The students' scores on the Raven's Coloured Progressive Matrices test were analyzed first, using an analysis of variance procedure (least squares solution). The main variable was kindergarten group: Early Immersion, Accueil I, Accueil II, French controls. The analysis revealed that there were statistically significant differences among the four groups (Table 2). Since these differences could influence the results on the French language tests, thus confounding the influence of the variables examined in this study (program, mother tongue and the learner's knowledge of a third language), language test scores and ratings were analyzed using a covariance procedure wherever necessary (see appendix B for a brief explanation of analysis of covariance). The results obtained from the analysis of variance and covariance are summarized in Tables 3, 4, and 5. Wherever the analysis of covariance procedure was used the mean scores shown in the tables are means adjusted for group differences on the Raven Matrices test scores. Moreover, in the case of two subtests (percentage of correct T-units and percentage of correct pronouns) the raw scores were converted using the $y = 2 \arcsin \sqrt{x}$ transformation. The results of the statistical analyses of these two subtests are based on the transformed scores. For more

meaningful interpretation of these results, the raw scores are presented in parentheses above the transformed scores.

(1) The French Test Results

(a) Influence of the program

The French language tests were analyzed first according to program (Early Immersion, Accueil I, Accueil II and French controls) using the analysis of covariance procedure. The results of these analyses are summarized in Table 3 and will be discussed below.

(i) The Listening Comprehension Test

The Early Immersion group ($\bar{X}$ = 13.39) scored significantly lower than the other three groups (Accueil I, $\bar{X}$ = 22.42; Accueil II, $\bar{X}$ = 22.46; French controls, $\bar{X}$ = 24.80) on the total score of the comprehension test. The Early Immersion group also scored significantly lower than the other three groups on subtests I and II, which measured comprehension of discrete vocabulary items and grammatical structures. However, on subtest III, which measured more global aspects of comprehension, there were no significant differences among the four groups.

(ii) Directed Oral Production Test

The results of this test show that the Early Immersion group ($\bar{X}$ = 0.31) produced significantly fewer correct responses than the two Accueil groups (Accueil I, $\bar{X}$ = 5.60; Accueil II, $\bar{X}$ = 4.95), who in turn produced significantly fewer such responses than the French control group ($\bar{X}$ = 22.61). Further analysis of the incorrect responses shows that the distribution of the grammatically incorrect responses is similar to that noted for the correct responses, i.e., the Early Immersion group ($\bar{X}$ = 13.18)

produced significantly more grammatically incorrect responses than the two Accueil groups (Accueil I, $\bar{X}$ = 22.01; Accueil II, $\bar{X}$ = 22.85) who, in turn, produced significantly more grammatically incorrect responses than the French control group ($\bar{X}$ = 6.00). Conversely, there were no significant differences among the four groups on the semantically incorrect responses. Moreover, the latter category consisted of only a small proportion of the incorrect responses (Early Immersion $\bar{X}$ = 2.48; Accueil I, $\bar{X}$ = 3.48; Accueil II, $\bar{X}$ = 2.98; French controls, $\bar{X}$ = 4.19). Finally, there was a significant difference between the Early Immersion group and the other three groups on the category "no response", which included responses given in a language other than French. In fact, "no response" was the most frequent type of response provided by the Early Immersion group ($\bar{X}$ = 18.07), whereas it was rarely used by the other three groups (Accueil I, $\bar{X}$ = 2.96; Accueil II, $\bar{X}$ = 3.15; French controls, $\bar{X}$ = 1.39).

(iii) The Free Oral Production Test

The results of the global evaluation of the free oral production test shows that on all four rating scales (pronunciation, grammar, vocabulary and communication) the Early Immersion group was rated significantly lower than the two Accueil groups, who in turn were rated significantly lower than the French controls (for details of ratings obtained by each group on the four scales see Table 3). Similarly, the results pertaining to the number of T-units show that the Early Immersion group produced significantly fewer T-units ($\bar{X}$ = 9.22) than the two Accueil groups (Accueil I, $\bar{X}$ = 18.55, Accueil II, $\bar{X}$ = 18.34), who in turn produced significantly fewer T-units than the French controls ($\bar{X}$ = 28.66). Moreover, the same pattern emerges

when the results of the percentage of correct T-units is examined. The Early Immersion group produced practically no correct T-units at all, whereas the proportions for the other three groups were in ascending order: Accueil I = 22%, Accueil II= 28%, French controls = 65%. The difference between the Accueil I and Accueil II groups was not significant.

The linguistic analysis of the students' speech samples on this test reveals that (1) The Early Immersion group produced significantly fewer syntactic units ($\bar{X}$ = 11.21) than the other three groups (Accueil I, $\bar{X}$ = 19.97; Accueil II, $\bar{X}$ = 18.06; French controls, $\bar{X}$ = 24.50). Moreover, the Accueil II group produced significantly fewer such units than the French controls. (2) There were no significant differences between the Early Immersion and the Accueil groups in the length of the syntactic units. However, all three groups produced significantly shorter syntactic units (Early Immersion, $\bar{X}$ = 4.11; Accueil I, $\bar{X}$ = 4.86; Accueil II, $\bar{X}$ = 4.62) than the French controls ($\bar{X}$ = 5.62). (3) The results pertaining to the mean value of a syntactic unit (maximum value = 2) show that the Early Immersion group ($\bar{X}$ = 1.48) scored significantly lower than the other three groups (Accueil I, $\bar{X}$ = 1.77; Accueil II, $\bar{X}$= 1.86; French controls, $\bar{X}$ = 1.91). Moreover, the Accueil I group scored significantly lower than the French control group. (4) The Early Immersion group produced significantly less complex syntactic units ($\bar{X}$ = 1.54) than the two Accueil groups (Accueil I, $\bar{X}$ = 1.92; Accueil II, $\bar{X}$ = 2.00), who in turn produced significantly less complex syntactic units than the French controls ($\bar{X}$ = 2.24 (5) The Early Immersion group produced

significantly fewer third person singular and plural pronouns ($\bar{X}$ = 0.91) than the three other groups (Accueil I, $\bar{X}$ = 4.55; Accueil II, $\bar{X}$ = 5.04, French controls, $\bar{X}$ = 5.24). There were no significant differences between the two Accueil groups and the French control group on the number of pronouns produced. However, both Accueil groups (Accueil I = 35%; Accueil II - 12%) and the Early Immersion group (13%) produced proportionally fewer correct pronouns than the French controls (88%). As in previous studies (Adiv, Note 1; Adiv, Note 2), practically all the errors consisted of the substitution of the masculine pronoun forms il, ils, for the required feminine forms elle, elles.

(b) Influence of the Learner's Mother Tongue

Mother tongue was considered a variable in second language performance in order to investigate: (1) whether second language learning is facilitated when the structures of the mother tongue and the second language are closely related and (2) whether second language learning is affected by the fact that the mother tongue is or is not one of the dominant languages of the learner's environment. The results from the analysis of the French tests according to the students' mother tongue are summarized in Table 4. In order not to confound the influence of the mother tongue with the effect of the program, only test results from the two Accueil groups were used with this variable. Furthermore, because some of the languages were spoken only by a very small number of students, only major linguistic groups were identified: (1) English, (2) Greek and (3) Italian. All the other linguistic groups were classified as part of a larger group entitled "other" (for exact sample sizes of each group see Table 13). Finally, it should be noted that for this part of the study the mean scores shown in Table 4 are the means directly obtained from the raw scores.

(i) The Listening Comprehension Test

The Italian students ($\bar{X}$ = 25.10) scored significantly higher than the Greek students ($\bar{X}$ = 19.96) on the total score of the listening comprehension test. There were no other significant differences among the four groups on the total score of this test. The mean scores for the other groups were: English students, $\bar{X}$ =23.81; "other language" students, $\bar{X}$ = 21.33. Similarly, on subtests I and II the Italian students scored significantly higher (subtest I, $\bar{X}$ = 14.90; subtest II, $\bar{X}$ = 5.30) than the Greek students (subtest I, $\bar{X}$ = 11.88; subtest II, $\bar{X}$ = 3.58). Here again there were no other significant differences. Moreover, there were no significant differences among the four language groups on subtest III of the listening comprehension test.

(ii) The Directed Oral Production Test

There were no significant differences among the four language groups on any of the evaluated measures of the directed oral production test except for the proportion of semantically incorrect responses. There the Italian students ($\bar{X}$ = 1.60) produced significantly fewer incorrect responses than the Greek students ($\bar{X}$ = 4.63). Moreover, numerically the Italian students had the highest number of correct responses ($\bar{X}$ = 6.50) followed in descending order by the "other language" group ($\bar{X}$ = 6.11), the English group ($\bar{X}$ = 5.16) and the Greek group ($\bar{X}$ = 4.66). It is noteworthy that most of the incorrect responses were due to grammatical errors (Italian students, $\bar{X}$ = 23.80; Greek students, $\bar{X}$ = 22.41; English students, $\bar{X}$ = 21.89; "other language" students, $\bar{X}$ = 20.22).

(iii) The Free Oral Production Test

The results of the global evaluation of the free oral production

test show no significant differences among the four language groups on three of the four rating scales (pronunciation, grammar and vocabulary). However, the "other language" group ($\bar{X}$ = 2.78) was rated significantly lower than the English ($\bar{X}$ = 3.50) and Greek ($\bar{X}$ = 3.50) groups on communication. The results of the T-unit analysis showed that there was no significant difference among the four groups on either the total number or the percentage of correct T-units produced. It should, however, be noted that the percentage of correct T-units produced by the Italian students (31%) was numerically higher than those produced by the other groups (Greek students = 22%, "other language" students = 22%, English students = 21%).

The results of the linguistic analysis revealed that the Italian students ($\bar{X}$ = 1.85) produced significantly more complete syntactic units (maximum value of a syntactic unit = 2) than the English students ($\bar{X}$ = 1.71). There were no other significant differences among the four groups on any of the measures pertaining to the syntactic units, although the Italian group scored numerically higher than the other three groups on practically all of these measures. With regard to the use of the third person singular and plural pronouns, there was again no significant difference among the four groups on the number of pronouns produced. However, the four groups differed markedly on the correct use of these pronouns ("other language" group, 60% correct; English group, 50%; Italian group, 17%; Greek group, 7%).

c) Influence of Knowledge of Another Language

Some researchers (Bialystok and Fröhlich, 1977; Lococo, 1976) have found that bilingual students learning a third language perform better in that language than monolingual students learning the same language as a second language. Adiv (Note 1) has also suggested that knowledge of an additional

language may be an influencing factor in the development of the Accueil students' productive skills. In order to examine this question more closely the Accueil students tested in the present study were grouped into two major groups: (1) those for whom French was their second language (L2) and those for whom it was their third language (L3). The French language tests were then analyzed according to this classification. The results of these analyses are summarized in Table 5. There again, no adjustment of test results was required and an analysis of variance procedure was used for the statistical treatment of the data.

(i) The Listening Comprehension Test

There were no significant differences among the two groups (French L2 and French L3) on either the total scores or on any of the subtest scores of this test. Numerically, the French L2 group scored slightly higher than the French L3 group on subtest I (French L2, $\overline{X}$ = 13.34; French L3, $\overline{X}$ = 12.76) and on subtest II (French L2, $\overline{X}$ = 4.59; French L3, $\overline{X}$ = 4.08). Similarly, the French L2 group ($\overline{X}$ = 22.30) obtained a slightly higher total test score than the French L3 group ($\overline{X}$ = 21.80).

(ii) The Directed Oral Production Test

There were no significant differences between the two groups on any of the scores except for the number of "no response". There the French L2 students ($\overline{X}$ = 3.85) produced significantly more such responses than the French L3 ($\overline{X}$ = 1.88). In other words the French L2 students were more likely to produce no response at all or to use their mother tongue in order to express themselves than the L3 students.

(iii) The Free Oral Production Test

Here again there were no significant differences between the two groups on either the global rating scales or the measures pertaining to the linguistic analysis. However, numerically the French L3 group scored somewhat higher than the French L2 group on all the measures except the percentage of correct pronouns.

2) The English Language Test Results

The students' English language skills were examined in order to compare the level of proficiency of the non-native English speakers (English L2 group) to that of the native speakers (English L1 group). In order to minimize the influence of other variables such as length of the school day, only the English performance of students in the two Accueil programs was examined. Hence, here too the test results were analyzed using an analysis of variance procedure and the mean scores shown in Table 6 are the means directly obtained from the raw scores. It should be borne in mind that not all the students in the two Accueil groups spoke English, hence the sample sizes in this part of the study are smaller than those in the previous section (For exact sample sizes see Table 1D).

(i) The Listening Comprehension Test

There were no significant differences between the English L1 students ($\bar{X}$ = 22.40) and the English L2 students ($\bar{X}$ = 20.05) on the total score of the listening comprehension test. Similarly there were no significant differences

between these two groups on any of the subtests although the native speakers scored numerically slightly higher than the non-native speakers.

(ii) The Directed Oral Production Test

The English L1 students ($\bar{X}$ = 27.27) scored significantly higher than the English L2 students ($\bar{X}$ = 18.36) on this test. Furthermore, when the mean score for each student is transformed into a standardized score and compared to national norms for this test, the English L1 group ($\bar{X}$ = 53.00) falls into the "generally competent" range (43 - 63) and the English L2 group falls one step below (range 24 - 45).

(iii) The Free Oral Production Test

The results of this test show that: (1) The English L1 group was rated significantly higher than the English L2 group on all four measures (pronunciation, grammar, vocabulary and communication). (2) There was no significant difference between the two groups on the number of T-units produced (English L1, $\bar{X}$ = 21.07; English L2 $\bar{X}$ = 20.73) However, the English L1 group produced significantly more correct T-units (78%) than the English L2 group (50%). (3) There was practically no difference between the two groups on the number of pronouns used (English L1, $\bar{X}$ = 4.44; English L2, $\bar{X}$ = 4.68), but the native English students produced significantly more correct pronouns (98%) than the non-native English students (56%). Practically all the pronoun errors consisted of the substitution of the masculine form "he" for the required feminine form "she".

(3) The Greek Language Test Results

Since there was only a small number of Greek students who did not speak English, the Greek test results were not analyzed according to further sub-divisions of this language group. Instead, only the Greek test results of the Greek/English bilingual students were recorded and informally compared to the English test results obtained for these students. This comparison shows that the students scored numerically higher in Greek than in English on the total score of the listening comprehension test (Greek, $\bar{X}$ = 21.64; English, $\bar{X}$ = 19.95) on subtest I (Greek, $\bar{X}$ = 10.37; English $\bar{X}$ = 7.58), and on subtest II (Greek, $\bar{X}$ = 8.11; English $\bar{X}$ = 7.95) of that test. Similarly the students were rated higher in Greek than in English on their productive skills (pronunciation, grammar, vocabulary and communication). Finally, the students produced practically the same number of T-units in the two languages (Greek, $\bar{X}$ = 19.44; English $\bar{X}$ = 19.95). However, the percentage of correct T-units produced in Greek (75%) was higher than that produced in English (52%).

Summary and Conclusions

The French test results can be summarized as follows:

(1) The Early Immersion group scored lower than the French control group on every measure of evaluation except subtest III of the listening comprehension test.

(2) The Early Immersion group scored lower than the two Accueil groups on all the measures of evaluation except for subtest III of the listening

comprehension test, the mean length of a syntactic unit and the percentage of correctly produced pronouns.

(3) There was no significant difference between the two Accueil groups and the French control group on any measure of the comprehension test, but the Accueil groups scored significantly lower than the French control group on most measures of the production test.

(4) There were no significant differences between the two Accueil groups on any of the measures of evaluation.

(5) There were few significant differences between groups of students identified on the basis of their mother tongue. The Italian students scored significantly higher than the Greek students on two subtests of the listening comprehension test and on two measures of the oral production tests. On the other hand, the development of the French language skills of the "other language" group was irregular. This group produced significantly more correct pronouns than the Greek students, but was rated inferior to the Greek and English students on communicative ability.

(6) The comparison between the students for whom French was a second language and those for whom French was a third language revealed practically no significant differences between these two groups although the French L3 students scored numerically higher on most measures evaluating productive skills.

The English and Greek tests can be summarized as follows:

(1) There were no significant differences between the native and non-native English students on any measure of the English listening comprehension test.

(2) The native English students scored significantly higher in English than the non-native English students on practically all measures of the production tests.

(3) The Greek/English bilingual students scored numerically higher in Greek than in English on practically every measure of evaluation.

The general pattern that emerges from the comparison of the Early Immersion and Accueil groups is that the latter were generally more proficient in French than the former. The results from this year's research are similar to those noted in the previous study (Adiv, Note 1) with regard to the students' productive skills. Since the Accueil students spend 50% more time in kindergarten than the Early Immersion students, the findings support the claim that increased class time in the second language leads to greater proficiency in that language. On the other hand, the previous study had revealed fewer significant differences between the Early Immersion and Accueil groups on the listening comprehension test. Here it should be noted that last year's listening comprehension test was a test specifically designed for immersion students. Although the results obtained by the Accueil students on that test were not near the maximum scores, it is possible that, in terms of linguistic content, the level of difficulty of certain test items was insufficient to discriminate between the groups.

A noteworthy finding that emerges from this study is the failure to find significant differences between the Accueil I and Accueil II groups. Similar results had been noted last year. However, last year's Accueil students from the French milieu had had 50% less class time than the Accueil students from the English milieu. Hence it was postulated that regular contact with francophone

peers can compensate for additional class time. Other researchers (Genesee, Morin and Allister, Note 4) found that even informal exposure to the second language outside the classroom seems to lead to greater proficiency in oral production. One would therefore expect that the students from the Accueil II group, all of whom attended a full-day kindergarten this year, would score higher on the production tests than the students from the Accueil I group. It should, however, be noted that in the previous study all of the Accueil students from the French milieu attended a partially integrated program, whereas half of this year's students did not follow such a program. Thus the latter's exposure to francophone peer speech was limited to informal contacts outside the classroom. It is very possible that there is little interaction between children from different classes at the kindergarten level. This notion seems to imply that the effectiveness of the French milieu depends to a large extent on the amount of direct contact between second language learners and native peers and that, in the absence of such contacts, intensity of instruction still remains the most salient factor in second language development.

With respect to the students' mother tongue the findings of this study suggest that the structure of the language seems to influence certain aspects of second language learning. In particular the comprehension skills seem to develop more rapidly when the first and second languages are structurally close, as in the case of Italian and French. Similar results were noted when the second language proficiency of native English speakers learning French and Hebrew was investigated (Adiv, Note 2). However, structural similarity between languages does not seem to stimulate a more rapid development

of the learner's second language grammar. In fact, closer investigation of the Accueil students' grammatical performance reveals that the Italian students tended to have slightly more grammatically incorrect responses on some tests than the other students. It is possible that the structural similarity between French and Italian may increase interference from the mother tongue (Kellerman, 1979).

The findings pertaining to the influence of the mother tongue on second language learning also show that the native English students did not score lower on the French tests than the non-native English students. Hence second language proficiency does not seem to be affected by whether the learner's mother tongue is or is not a dominant language in the learner's environment.

Another noteworthy finding emerging from this study is that the level of proficiency in French did not seem to be greatly affected by prior second language experience. The students for whom French was their third language tended to score higher than the students for whom it was their second language on those measures which evaluate communicative competence. However, the differences were statistically not significant. These findings suggest that, at the kindergarten level, knowledge of a second language exerts minimal influence on third language performance and that this factor may become more noticeable only with older students (Bialystok and Fröhlich, 1977; Lococo, 1976). Another reason for the failure to find significant differences between those students for whom French was their second language and those for whom it was their third language may be the latter group's proficiency in English (their second language). Here the results of the study show that the students who spoke English as a second language scored lower on the English tests than the native English students. Moreover, the Greek

students, who constituted the majority of the students for whom English was a second language, obtained lower scores in English than in Greek on most of the tests. Cummins (1979) has proposed that the development of second language proficiency may be dependent on the learner's proficiency in his first language, i.e., a high level of competence in the mother tongue will promote the development of similar levels of competence in the second language. It may be the case that this "developmental interdependence hypothesis" applies also to the relationship between a learner's second and third languages. Thus, it is possible that the learner's proficiency in the second language must be above a certain level in order to facilitate third language development.

A final point of interest which emerges from this study pertains to certain aspects of similarity in the learning of different second languages. It is, for instance, noteworthy that both in English and in French the substitution of the masculine pronoun "he" (French il) for the required pronoun "she" (French elle) was the major type of pronoun error. A similar error was noted in the speech patterns of young children learning Hebrew as a second language (Adiv, Note 2). With regard to pronoun usage, this study shows that the Early Immersion students, but not the Accueil students, used fewer pronouns than the francophone students. Furthermore, the students who spoke English as a second language used English pronouns as frequently as the native English students. These findings suggest that avoidance of pronominalization may be characteristic only of early stages of second language acquisition, whereas the incorrect use of even simple subject pronouns seems to persist to much more advanced stages.

In a similar vein, there is practically no difference in the number of T-units produced in French, English and Greek by those Accueil students who

were tested in all three languages. However, the percentage of correctly produced T-units in French and in English is again significantly lower than that of the respective native speakers.

It will be of interest to follow the language development of these students as they progress through the elementary grades, where they will receive formal instruction in both French and English.

Reference Notes

1. Adiv, E. A comparison of early immersion and classes d'accueil programs at the Kindergarten level. Instructional Services Department, The Protestant School Board of Greater Montreal, 1979.

2. Adiv, E. An analysis of second language performance in two types of immersion programs. Unpublished Ph.D. dissertation. McGill University 1980.

3. Andreani, P., Feider, H., Hardy Roch, M. and Lortie, A.M. Etude comparative sur l'apprentissage du français entre les enfants-immigrants en classe d'accueil et les enfants-immigrants en insertion directe. La Commission des écoles catholiques de Montréal, 1978.

4. Genesee, F., Morin, S. and Allister, T. Evaluation of the 1973-1974 grade VII French immersion class. A report submitted to the Curriculum Department. The Protestant School Board of Greater Montreal, 1974.

References

Bautier-Castaing, E. Acquisition comparée de la syntaxe du français par des enfants francophones et non-francophones. Etudes de Linguistique Appliquée, 1977, 27, 19 - 41.

Bialystok, E. and Fröhlich, M. Aspects of second language learning in classroom settings. Working Papers on Bilingualism, 1977, 13, 1 - 26.

Cummins, J. Linguistic interdependence and the educational development of bilingual children. Review of Educational Research, 1979, 49, 222 - 251.

Hunt, K.W. Syntactic maturity in school children and adults. Monographs of the Society for Research in Child Development, 1970, 53, 1.

Kellerman, E. Transfer and non-transfer: where are we now ? In A. Valdman (Ed.) Studies in Second Language Acquisition (Vol 2, number 1) Bloomington: Indiana University, 1979.

Larsen-Freeman, D., and Strom, V. The construction of a second language acquisition index of development. Language Learning, 1977, 27, 123 - 124.

Lococo, V. A cross-sectional study on L3 acquisition. Working Papers on Bilingualism, 1976, 9, 44 - 75.

Scott, M.S. and Tucker, R.G. Error analysis and English language strategies of Arab students. Language Learning, 1974, 24, 69-97.

Table 1

(A) Sample Sizes According to Program

Early Immersion	16
Accueil I[a]	54
Accueil II[b]	16
French control	10

(B) Sample Sizes of Accueil Groups Distributed According to Mother Tongue

English	21
Greek	27
Italian	10
Other	12

[a] Accueil group located in an English school

[b] Accueil group located in a French school

Table 1 (cont'd)

(C) Sample Sizes of Accueil Groups Distributed According to whether French is Second (L_2) or Third (L_3) Language Learned.

French is L_2	44
French is L_3	26

(D) Sample Size of English-Speaking Students in Accueil Classes.

Native English speakers	16
Non-native English speakers	23

Table 2

Summary of Coloured Progressive Matrices Test Scores[a,b]

Early Immersion	Accueil I	Accueil II	French Control	F ratio	df
22.19	18.49	17.62	18.00	3.60	3,92

(B) Range

Early Immersion	12.28
Accueil I	12.29
Accueil II	12.29
French control	13.23

[a]Maximum score is 36

[b]Means joined by a line are significantly different from one another

Table 3

Summary of French Test Results by Program[a]

(1) Listening Comprehension Test

	Early Immersion	Accueil I	Accueil II	French Control	F ratio	df
total corr. (40)[b]	13.39	22.42	22.46	24.80	10.99***	3,89
- subtest I (22)	7.14	13.18	13.56	15.27	16.57***	3,89
- subtest II (9)	2.87	4.54	4.25	4.63	3.92*	3,89
- subtest III (9)	3.55	4.70	4.63	4.89	1.48	3,89

* $p < .05$

*** $p < .001$

[a]Mean scores joined by a line differ significantly from one another according to the Newman-Keuls test of multiple comparison.

[b]Maximum scores in parentheses.

Table 3 (cont'd)

Summary of French Test Results by Program

(2) Directed Oral Production Test (34)[a]

	Early Immersion	Accueil I	Accueil II	French Control	F ratio	df
Correct responses	0.31	5.60	4.95	22.61	51.86***	3,74
Incorrect responses						
- gramatically incorr. responses	13.18	22.01	22.85	6.00	31.83***	3,74
- semantically incorr. responses	2.48	3.48	2.98	4.19	.63	3,74
- no response	18.07	2.96	3.15	1.39	31.93***	3,74

*** $p < .001$

[a] 34 items distributed according to 4 measures of evaluation.

Table 3 (cont'd)

Summary of French Test Results by Program

(3) Free Oral Production Test

	Early Immersion	Accueil I	Accueil II	French Control	F ratio	df
Global evaluation						
- pronunciation (5)[a]	1.68	3.56	3.62	5.01	32.76***	3,82
- grammar (5)	1.65	3.36	3.42	4.73	24.43***	3,82
- vocabulary (5)	1.38	3.30	3.56	4.96	37.43***	3,82
- communication (5)	1.96	3.36	3.49	4.51	24.49***	3,82
T-units						
- total	9.22	18.55	18.34	28.66	15.95***	3,83
- percentage	(0) 0.04	(22) 0.97	(28) 1.12	(65) 1.89	35.50***	3,83

*** $p < .001$

[a]A score shown can exceed the maximum test score due to adjustment for differences on Raven Matrices test scores.

[b]Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 3 (cont'd)

Summary of French Test Results by Program

(3) Free oral production Test (cont'd)

	Early Immersion	Accueil I	Accueil II	French Control	F ratio	df
Linguistic analysis						
- number of syntactic units	11.21	19.97	18.06	24.50	6.67***	3,65
- mean length of syntactic unit	4.11	4.86	4.62	5.62	5.49**	3,65
- mean value of syntactic unit (2)[a]	1.48	1.77	1.86	1.91	22.38***	3,65
- average complexity of syntactic unit	1.54	1.92	2.00	2.24	8.30***	3,65
Pronouns						
- total	0.91	4.55	5.04	5.24	24.28***	3,83
- percentage correct[b]	(13) 0.74	(35) 1.26	(12) 0.68	(88) 2.44	4.50**	3,83

** $p < .01$

*** $p < .001$

[a] maximum score in parentheses

[b] Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 4

Summary of French Test Results of the Accueil Groups According to the Students' Mother Tongue[a]

(1) Listening comprehension test

	English	Greek	Italian	Other	F ratio	df
Total correct (40)[b]	23.81	19.96	25.10	21.33	2.89*	3,65
- subtest I (22)	13.76	11.88	14.90	13.25	2.87*	3,65
- subtest II (9)	4.90	3.58	5.30	4.58	4.51**	3.65
- subtest III (9)	5.14	4.50	4.90	3.50	1.84	3,65

* $p < .05$
** $p < .01$

[a]Mean scores joined by a line are significantly different from one another.

[b]Maximum scores in parentheses

Table 4 (cont'd)

Summary of French Test Results of the Accueil Groups According to the Students' Mother Tongue.

(2) Directed oral production test (34)[a]

	English	Greek	Italian	Other	F ratio	df
Correct responses	5.16	4.66	6.50	6.11	0.84	3,61
Incorrect responses						
- grammatically incorrect responses	21.89	22.41	23.80	20.22	1.60	3,61
- semantically incorrect responses	2.89	4.63	1.60	3.33	3.85*	3,61
- no response	4.05	2.30	2.30	4.33	1.50	3,61

* $p < .05$

[a] 34 items distributed according to 4 measures of evaluation

Table 4 (cont'd)

Summary of French Test Results of the Accueil Groups According to the Students' Mother Tongue

(3) Free oral production test

	English	Greek	Italian	Other	F ratio	df
Global evaluation						
- pronunciation (5)	3.78	3.50	3.61	3.22	1.18	3,60
- grammar (5)	3.43	3.35	3.67	2.94	1.19	3,60
- vocabulary (5)	3.50	3.37	3.39	2.83	1.41	3,60
- communication (5)	3.50	3.50	3.33	2.78	2.76*	3,60
T-units						
- Total	18.24	19.20	17.89	17.00	0.39	3,59
- percentage correct[a]	(21) 0.94	(22) 0.97	(31) 1.18	(22) 0.98	0.56	3,59

* $p < .05$

[a] Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 4 (cont'd)

Summary of French Test Results of the Accueil Groups According to the Students' Mother Tongue

(3) Free oral production test (cont'd)

	English	Greek	Italian	Other	F ratio	df
Linguistic analysis						
- number of syntactic units	19.62	20.13	18.86	17.14	0.61	3,46
- mean length of syntactic units	4.86	4.88	4.90	4.22	1.50	3,46
- mean value of syntactic units	1.71	1.83	1.85	1.77	3.54*	3,46
- average complexity of syntactic units	1.93	1.96	2.08	1.78	1.38	3,46
Pronouns						
- total	4.68	4.73	4.22	4.67	0.24	3,59
- percentage correct[a]	(50) 1.56	(7) 0.55	(17) 0.85	(60) 1.78	4.05	3,59

* $p < .05$

[a] Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 5

Summary of French Test Results of the Accueil Groups According to whether French is Second (L2) or Third (L3) Language Learned

(1) Listening comprehension test

	French L2	French L3	F ratio	df
Total correct (40)[a]	22.30	21.80	0.11	1,67
- subtest I (22)	13.34	12.76	0.53	1,67
- subtest II (9)	4.59	4.08	1.56	1,67
- subtest III (9)	4.36	4.96	1.39	1,67

[a]Maximum scores in parentheses.

Table 5 (cont'd)

Summary of French Test Results of the Accueil Group According to whether French is Second (L2) or Third (L3) Language Learned

(2) Directed oral production test (34)[a]

	French L2	French L3	F ratio	df
Correct responses	5.48	5.00	0.28	1,63
Incorrect responses				
- gramatically incorrect responses	21.68	22.96	1.89	1,63
- semantically incorrect responses	3.05	4.16	2.54	1,63
- no response	3.85	1.88	5.08*	1.63

* $p < .05$

[a] 34 items distributed according to 4 measures of evaluation

Table 5 (cont'd)

Summary of French Test Results of the Accueil Groups According to whether French is Second (L2) or Third (L3) Language Learned

(3) Free oral production test

	French L2	French L3	F ratio	df
Global evaluation				
- pronunciation (5)	3.54	3.60	0.11	1,62
- grammar (5)	3.29	3.48	0.78	1,62
- vocabulary (5)	3.24	3.50	1.51	1,62
- communication (5)	3.31	3.48	0.81	1,62
T-units				
- total	17.90	19.25	0.94	1,61
- percentage correct[a]	(22) 0.98	(23) 1.01	0.95	1,61

[a]Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 5 (cont'd)

Summary of French Test Results of the Accueil Groups According to whether French is Second (L2) or Third (L3) Language Learned

(3) Free oral production test (cont'd)

	French L2	French L3	F ratio	df
Linguistic analysis				
- number of syntactic units	18.96	19.91	0.41	1,48
- mean length of syntactic units	4.63	4.96	2.25	1,48
- mean value of syntactic units (2)[a]	1.77	1.82	2.17	1,48
- average complexity of syntactic units	1.94	1.95	0.01	1,48
Pronouns				
- total	4.6	4.8	0.21	1,61
- percentage correct[b]	(33) 1.22	(17) 0.84	1.39	1,61

[a]Maximum scores in parentheses.

[b]Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 6

Summary of English Test Results of the Accueil Groups According to whether English is Students' Mother Tongue (L1) or Second Language (L2)[a]

(1) Listening comprehension test

	English L1	English L2	F ratio	df
Total correct (40)[b]	22.40	20.05	2.75	1,29
- subtest I (22)	8.80	7.81	2.08	1,29
- subtest II (9)	8.20	7.86	0.24	1,29
- subtest III (9)	5.40	4.38	3.12	1,29

(2) Directed oral production test

	English L1	English L2	F ratio	df
Raw scores (38)[b]	27.27	18.36	14.97***	1,31
Standard scores (76)	53.00	34.18	15.80***	1,31

*** $p < .001$

[a] Mean scores joined by a line are significantly different from one another.

[b] Maximum scores in parentheses.

Table 6 (cont'd)

Summary of English Test Results of the Accueil Groups According to whether English is Students' Mother Tongue (L1) or Second Language (L2)

(3) Free oral production test

	English L1	English L2	F ratio	df
Global evaluation				
- pronunciation (5)[a]	4.53	3.17	29.19***	1,37
- grammar (5)	4.28	2.98	29.99***	1,37
- vocabulary (5)	4.31	2.91	24.19***	1,37
- communication (5)	3.78	2.96	13.24***	1,37
T-units				
- total	21.07	20.73	0.02	1,35
- percentage correct[b]	(78) 2.16	(50) 1.57	14.55***	1,35
Pronouns				
- total	4.44	4.68	0.18	1,36
- percentage correct[b]	(96) 2.89	(56) 1.70	12.60**	1,36

** $p < .01$

*** $p < .001$

[a] Maximum scores in parentheses.

[b] Statistical analysis based on transformed scores. Percent values presented in parentheses represent the untransformed scores as derived from the transformed scores.

Table 7

Summary of Greek and English Test Results for Native Greek Students in the Accueil Groups

(1) Listening comprehension test

	English tests	Greek tests
Total correct (40)[a]	19.95	21.64
- subtest I (22)	7.58	10.37
- subtest II (9)	7.95	8.11
- subtest III (9)	4.42	3.16

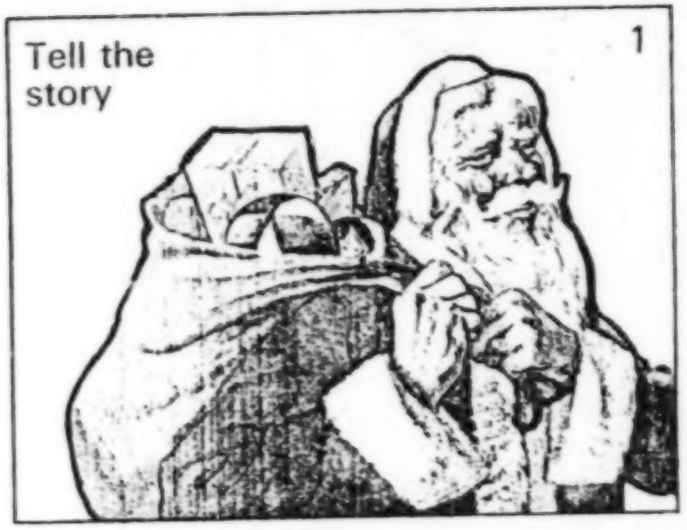
(2) Free oral production test

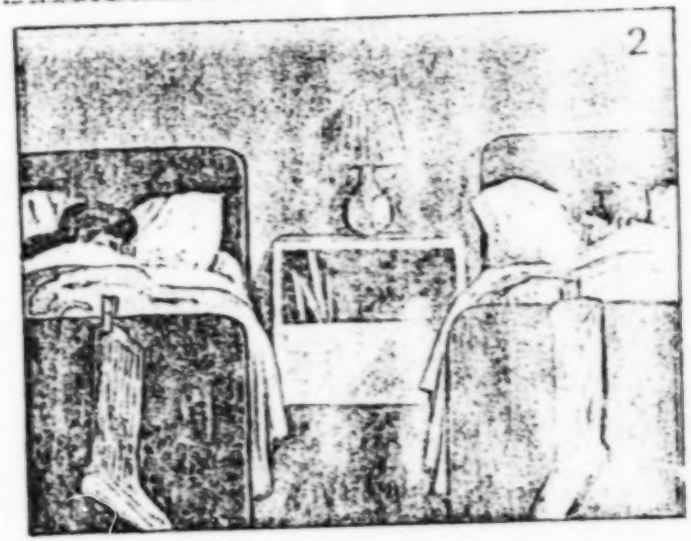
	English tests	Greek tests
Global evaluation		
- pronunciation (5)[a]	3.08	4.32
- grammar (5)	2.95	3.60
- vocabulary (5)	2.88	3.62
- communication (5)	2.95	3.92
T-units		
- total	19.95	19.44
- percentage correct[b]	(52) 0.53	(75) 0.75

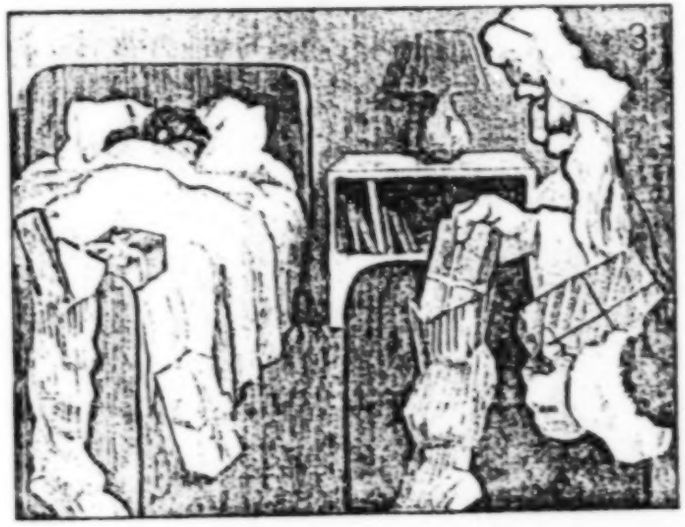
[a] Maximum scores in parentheses. --- [b] Percent values in parentheses.

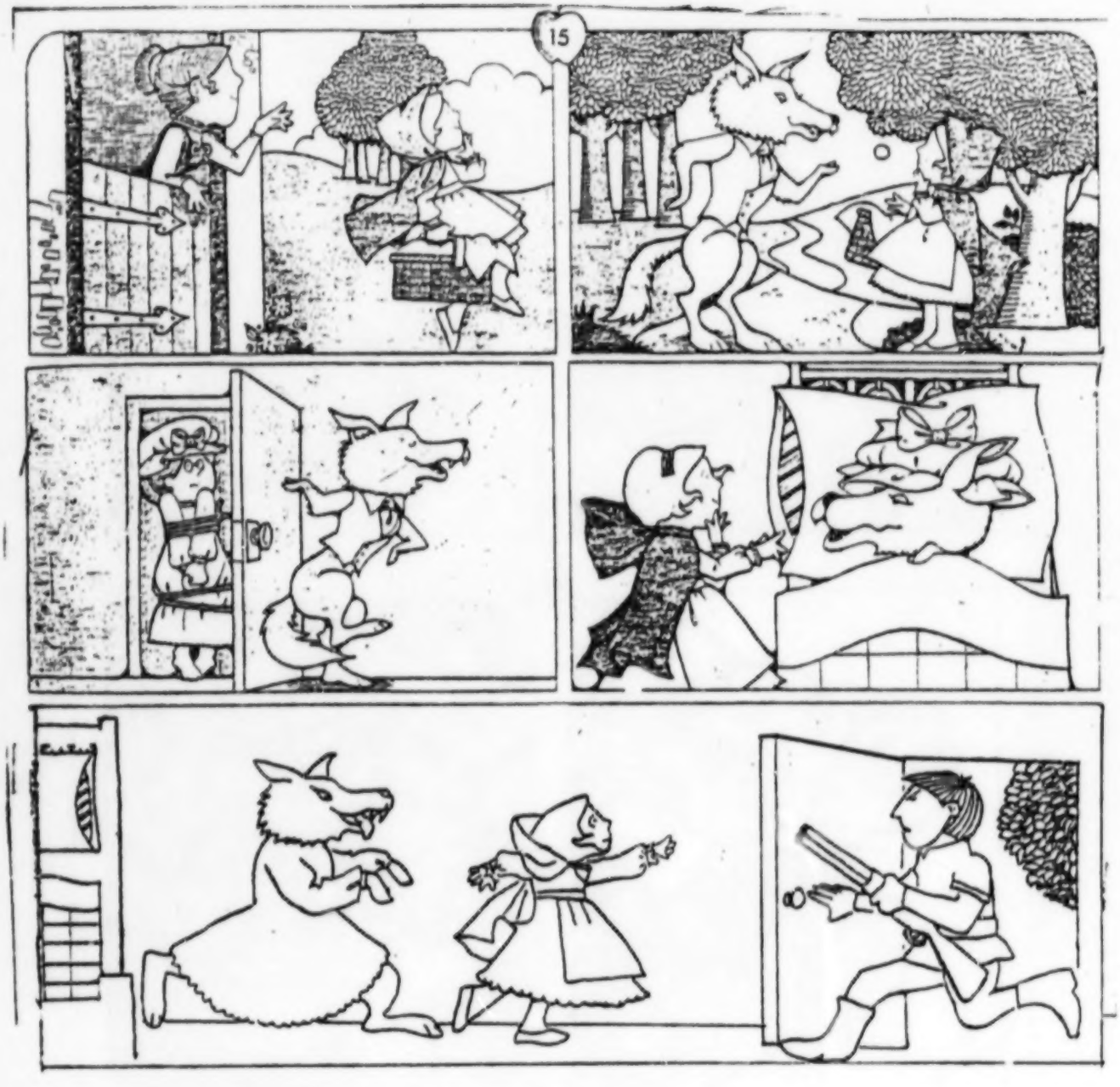
APPENDIX A

Tell the story





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APPENDIX B

Explanation of Analysis of Covariance

Analysis of covariance is a statistical procedure which is similar to the analysis of variance in that it is used to compare the results of two or more groups on a particular test. At the same time, analysis of covariance reduces the influence that another variable, such as I.Q., might have on the test results. For example, if two hypothetical language groups under investigation differ a priori in terms of I.Q., and if it is believed that I.Q., will significantly influence performance on the test being administered (e.g., a reading test), then an analysis of covariance will estimate the significance of the language factor. This mathematical procedure is used when it is difficult or impossible to select groups which are equivalent in I.Q.